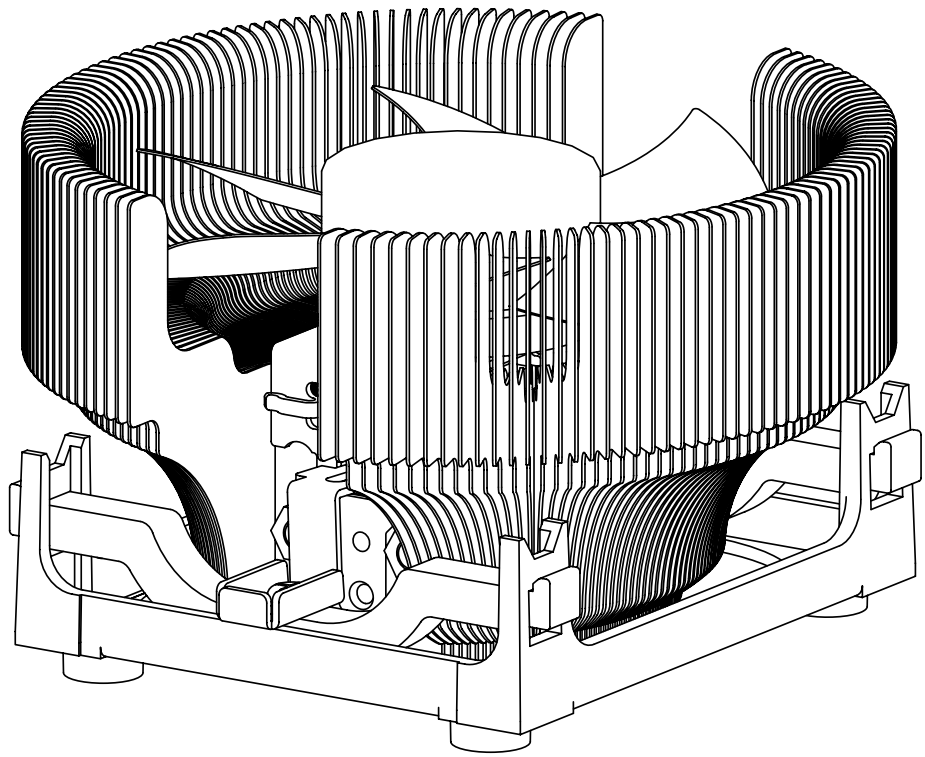
ZALMAN

User's Manual

(English Edition)



CNPS7000

*** Please read before installation**

http:// www.zalman.co.kr http:// www.zalmanusa.com

1. Features

1) Does not generate noise or vibration in Silent Mode.
2) Pure copper and/or pure aluminum base materials ensure excellent heat dissipation.
3) INTEL Pentium 4 (Socket478) and AMD Athlon 64 (Socket754) compatible design for broad compatibility.
4) 92mm fan inside the FHS maximizes airflow.
5) Adjustable fan speed controller (FAN MATE 1) enables control of noise and fan performance.

* Fan should be set to Normal Mode if overclocking.

* Zalman Tech. Co., Ltd. is not responsible for any damage resulting from CPU OVERCLOCKING.

2. Specifications

1) FHS (Flower HeatSink)

Spec. \ Model		CNPS7000-AlCu	CNPS7000-Cu
Weight (g)		445	773 [1)]
T.R. (°C/W)	Silent Mode	0.29	0.27
	Normal Mode	0.22	0.20
Dimensions (mm)		109(L) X 109(W) X 62(H)	
Dissipation Area (Cm^2)		3170	

2) Fan

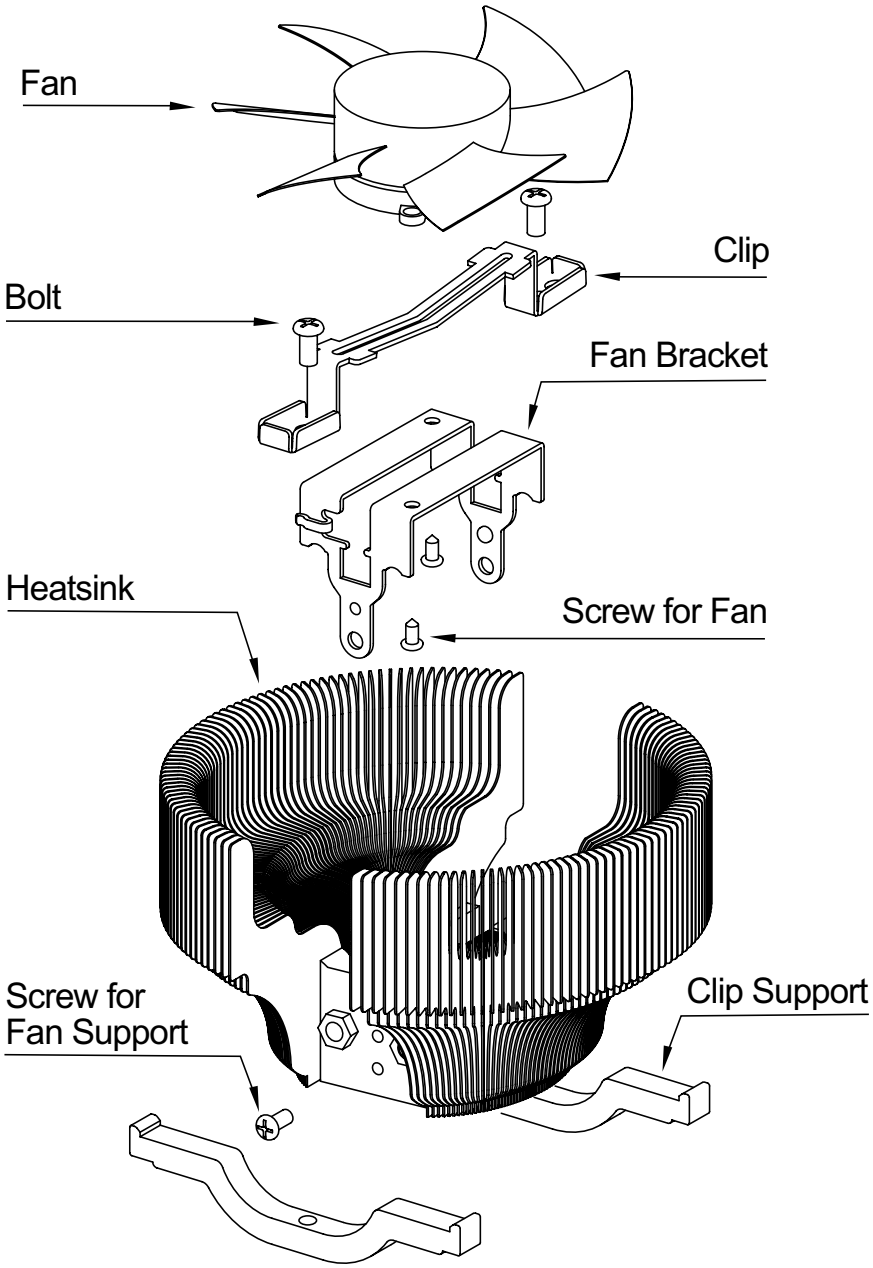
- Bearing Type : 2-Ball
- Rotational Speed : 1350RPM ± 10 % (Silent Mode)
  2400RPM ±10 % (Normal Mode)
- Noise Level : 20dB ± 10% (Silent Mode)
  25dB ± 10% (Normal Mode)

3) FAN MATE 1

- Output Voltage : 5V - 11V ± 2 %
- Allowable Power : 6W or lower

NOTE1) The specified maximum weight is 450g for an Intel Pentium 4 cooler. The weight of CNPS7000-CU is 773g, so special care should be taken when moving a computer equipped with CNPS7000-CU. Zalman Tech is not responsible for any damage that occurs when moving a computer.

3. Exploded View

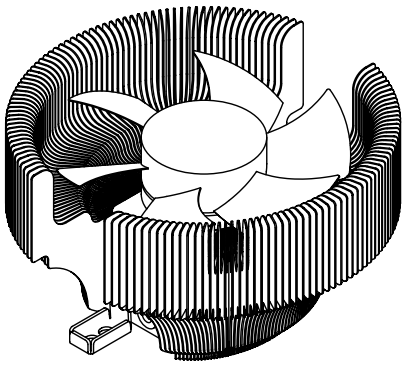


4. Patents

- ❖ Korean Patent Application No. 00-54635
- ❖ Korean Design Application Nos. 02-17470, 02-25208, 02-25209, etc.
- ❖ Patent Applications pending in over 20 nations around the world, including USA, EU, and Japan

5. Components

❶ FHS Assembly (CNPS7000-Cu/AlCu)
❷ Two (2) Clip Supports - For Pentium 4 (Socket 478)
❸ Two (2) Bolts - For fastening the clip
❹ Two (2) Nipples - For Athlon 64
❺ Thermal Grease
❻ Adjustable Fan Speed Controller (FAN MATE 1)
❼ User's Manual



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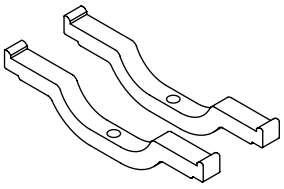

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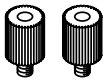

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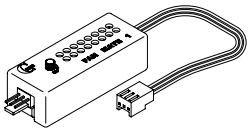

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6. Compatible CPU Types

1) INTEL Pentium 4 - Socket 478

Normal/Silent Mode : Up to 3.06㎓ or higher

For CPUs with higher clock speeds, please refer to our website (www.zalmanusa.com)

2) AMD Athlon 64

Visit our website (www.zalmanusa.com) for a list of compatible CPUs after Athlon 64 is officially released on the market.

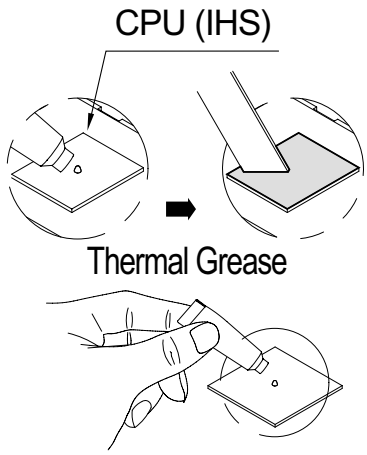
7. Cautions During Installation

1) If excessive force is exerted on the fan, it may malfunction and result in damage to the product and/or the computer.
2) Do not put your finger into the fan while it is running.
3) Keep the product away from children.
4) Zalman Tech. Co., Ltd. is not responsible for any problems arising from using the product outside its intended purpose.

7. Installation (INTEL Pentium 4-478)

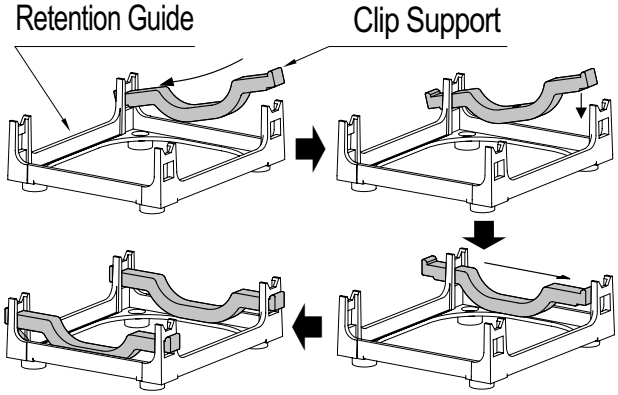
1) Apply Thermal Grease

Spread thermal grease thinly and evenly over the CPU core.



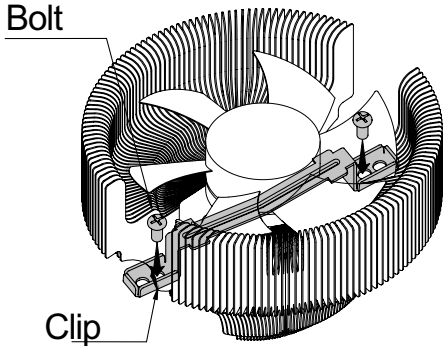
2) Install Clip Support

Install the two clip supports at both sides of the retention guide as shown on the right.



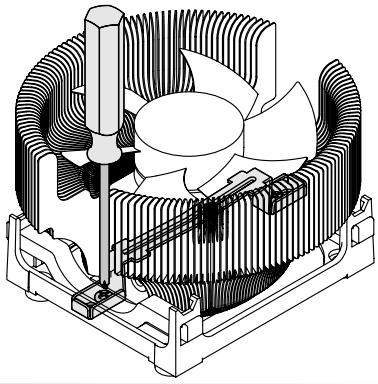
3) Insert Bolts

Insert the bolts into the inner holes on the clip.



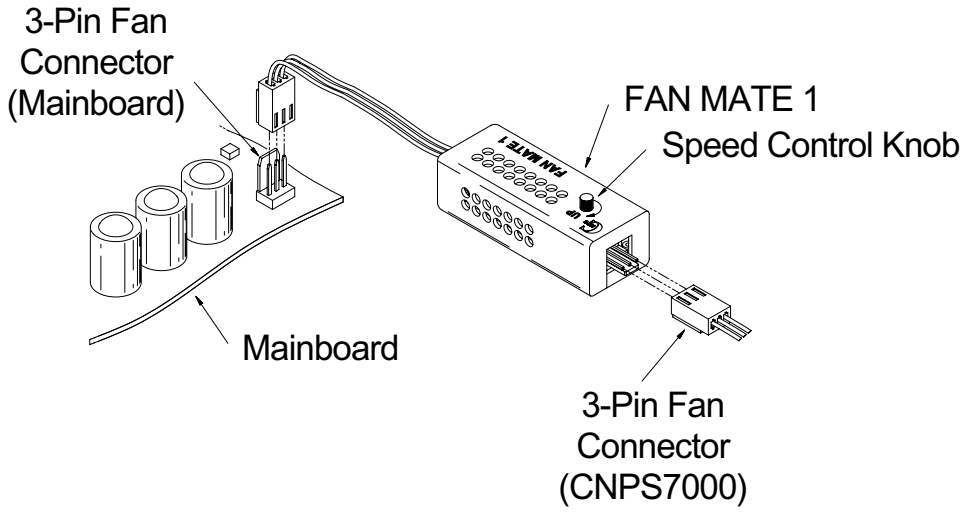
4) Fasten Bolts

Place the FHS on the center of the CPU. Screw in both bolts in an alternating fashion until they are completely tightened.



5) Supply Power (Connect FAN MATE 1)

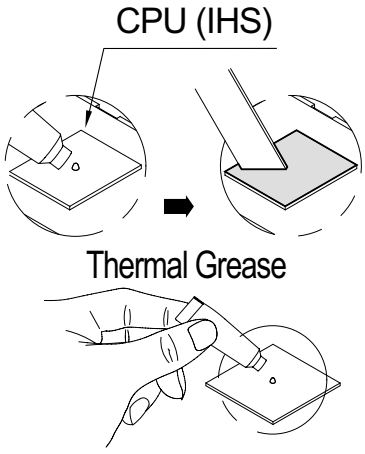
Connect FAN MATE 1 with the mainboard and the fan.



8. Installation (AMD Athlon 64)

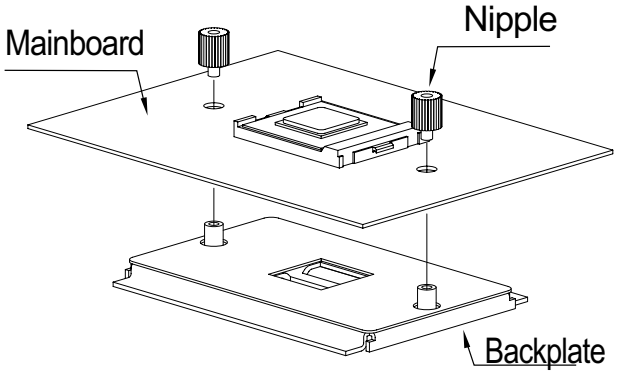
1) Apply Thermal Grease

Spread the thermal grease thinly and evenly over the CPU core



2) Fasten Nipples

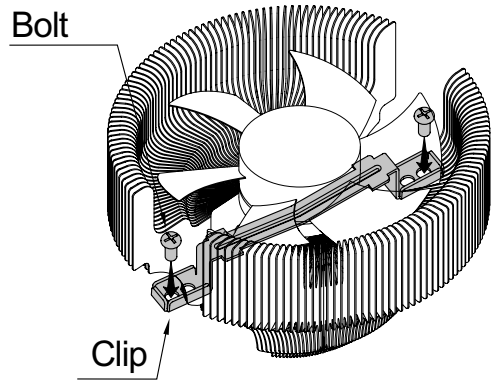
Locate the backplate on the bottom of the mainboard under the CPU socket, then fasten the nipples as shown on the right.



* When installing CNPS7000 on Athlon 64, retention frame is not needed.

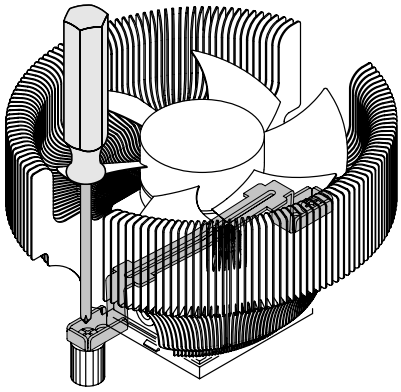
3) Insert Bolts

Insert the bolts into the outer holes on the clip.



4) Fasten Bolts

Place the FHS on the center of the CPU. Partially screw the bolts into the central holes of the nipples. Then, screw both bolts down further in an alternating fashion until they are completely tightened.



5) Supply Power (Connect FAN MATE 1)

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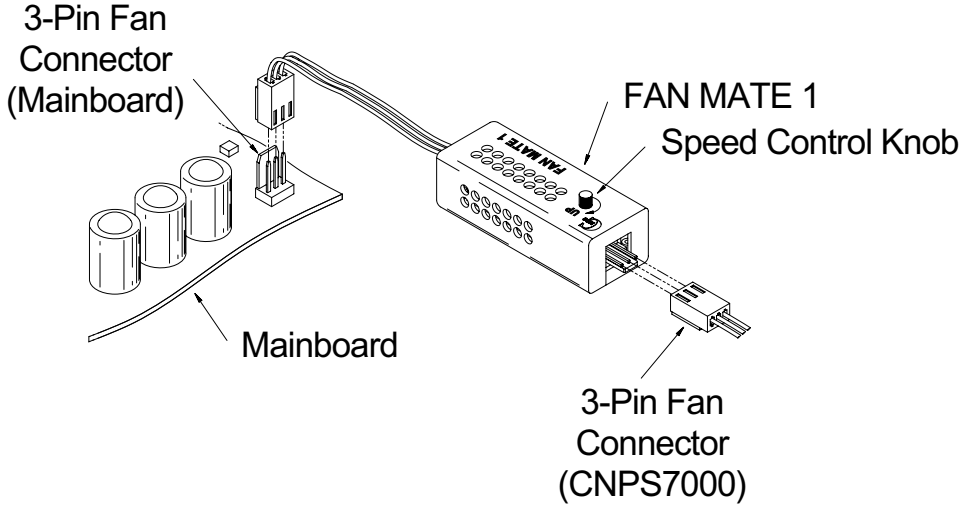

* Installation procedure and parts list may change after Athlon 64 is officially released on the market.

* For more information, visit our website(www.zalmanusa.com).

9. Notes on Usage

1) Checking CPU Compatibility & Using FAN MATE 1

Read ‘Compatible CPU Types’ section to confirm that your CPU is compatible before using the CPU cooler. The speed control knob on FAN MATE 1 can be turned to set the fan speed. When it is turned counter-clockwise, the fan operates in Silent Mode at its minimum speed.

NOTE) FAN MATE 1 has been specifically designed to be used with the fan of this product. Zalman Tech. Co., Ltd. is not responsible for any damage caused to systems or CPUs by using FAN MATE 1 with other types of fans.

2) Cautions During Booting

When booting the computer, it may automatically power down after an alarm sound is generated by a system monitoring program to indicate that the the CPU fan is rotating slowly. If this happens, turn the speed control knob fully clockwise to increase the fan speed. Then set 'CPU Fan Detected' to 'Disabled' in the BIOS settings, or set the slowest rotational speed of the CPU fan in the system monitoring program to less than or equal to 1300 RPM. Now the fan can be set back to the silent mode by turning the knob counter clockwise.

NOTE) Some mainboards do not boot if the rotational speed of the CPU fan speed is below a certain number of RPM. If the BIOS settings are updated, Silent Mode can be used. For more information on updating your BIOS, please refer to your mainboard manufacturer's web site. Disabling of CPU fan speed detection in BIOS settings does not effect computer performance.

3) Creating a Complete Noiseless System

Use the following Zalman products to achieve stable and silent operation of your computer : Noiseless Power Supply, CNPS series CPU Cooler, Fanless Coolers for Northbridge Chipset & Video Card, and Noiseless Fan.

* For more info on these products, visit our website at www.zalman.co.kr.

10. Notes before Installation

As shown in Figure 2 a mainboard that is not compliant with the “10.2mm motherboard component height restriction” standard, introduced by Intel, may create interference between components and the clip. Please do not install the CNPS7000 when this interference is observed.

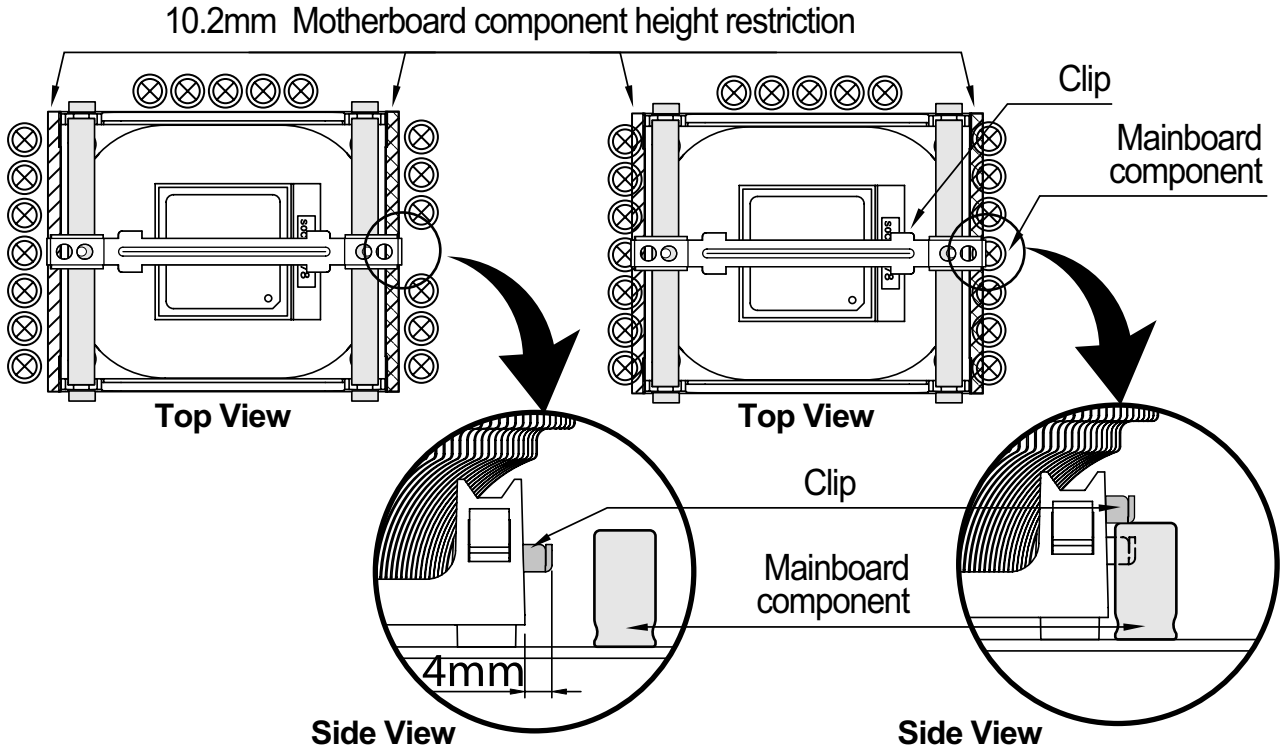

Figure 1 (O) **Figure 2 (X)**

11. Thermal Resistance and Noise